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E-656

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AGRICULTURAL RESEARCH ADMINISTRATION  
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

A LIST OF ARTHROPODS, ARRANGED ACCORDING TO ORDER, FAMILY,  
AND GENUS, AND THEIR SUSCEPTIBILITY TO ROTENONE  
AND THE ROTENOIDS.

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Abstracts of all available information relating to the insecticidal value of Derris, Lonchocarpus, Tephrosia, and Mundulea and their active constituents, namely, rotenone and the rotenoids, have been presented in the E Series of the Bureau of Entomology and Plant Quarantine, United States Department of Agriculture. 2/ In those abstracts the information was grouped according to the order, family, genus, and species of the organisms against which these insecticides were tested. The author now submits an alphabetical list of the species reported on, arranged according to order and family. Many conflicting reports were received from different observers on the efficacy of derris for the control of certain species. In some instances the information was so vague that no definite conclusion could be arrived at. Where there is a lack of unanimity in this respect, the compiler has attempted to indicate the opinion of the greater number of experimenters on the species involved.

The fact that a certain species is sensitive to rotenone or the rotenoids should not be construed to mean that these materials can be used in a practical way for its control. For example, the larva of the codling moth is killed by rotenone but, under outdoor conditions, sprays and dusts containing rotenone quickly lose their value through decomposition and weathering.

In 1936 De Bussy, Van der Laan, and Diakonoff (Tijdschr. over Plantensiekten 42: 77) compiled a list of about 200 species of insects found in the Netherlands, and indicated whether they were sensitive to derris dust or derris spray. The list submitted in this publication includes 784 species of insects and Acarina found in all parts of the world. The susceptibility of each organism, or its lack of susceptibility, to preparations containing rotenone is indicated by the sign plus or minus.

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1/ The manuscript of this publication was read by Mr. C. F. Muesebeck and specialists in his division; who carefully checked the scientific names.

2/ Part I, Collembola, Orthoptera, Dermaptera, Odonata, Isoptera, Corrodentia, and Mallophaga, E-579; Part II, Thysanoptera, E-581; Part III, Homoptera, E-593; Part IV, Hemiptera, E-594; Part V, Anoplura, E-598; Part VI, Coleoptera, E-603; Part VII, Lepidoptera, E-625; Part VIII, Hymenoptera, E-630; Part IX, Diptera, E-652; Part X, Siphonaptera, E-654; and Part XI, Acarina, E-655.

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Family and species

COLLEMBOLA

Entomobryidae:

Lepidocyrtus cyaneus Tull. -

Lepidocyrtus lanuginosus (Gmel.) -

Isotomidae:

Isotomurus palustris maculata Schaffer +

Proisotoma sp. -

Poduridae:

Achorutes armatus (Nic.) -

Unidentified springtails +

ORTHOPTERA

Acrididae:

Chorthippus sp. +

Melanoplus differentialis (Thos.) -

Melanoplus femur-rubrum (Deg.) -

Schistocerca gregaria (Forsk.) -

Valanga nigricornis (Burm.) ?

Unidentified grasshoppers + (in laboratory)

- (in field)

Blattidae:

Blatta orientalis L. -

Blattella germanica (L.) +

Periplaneta americana (L.) +

Periplaneta australasiae (F.) -

Neostylopyga rhombifolia (Stoll) -

Unidentified roaches +

Gryllidae:

Gryllotalpa sp. -

Gryllus assimilis (F.) -

Gryllus domesticus L. -

Phasmatidae:

Carausius morosus Brunn. -

Tettigoniidae:

Sexava sp. -

Tachycines asynamorus Adel. +

DERMAPTERA

Forficulidae:

Forficula auricularia L. -

Family and species

ODONATA

Aeshnidae:

Aeshna sp. -

Unidentified species of dragonfly -

ISOPTERA

Unidentified species -

CORRODENTIA

Trogiidae:

Liposcelis divinatorius (Mull.) +

Trogium pulsatorium (L.) +

MALLOPHAGA

Gyropidae:

Gliricola porcelli (L.) +

Gyropus ovalis Nitzsch +

Menoponidae:

Eomenacanthus stramineus (Nitzsch) +

Menopon gallinae (L.) +

Philopteridae:

Goniocotes gigas Tasch. +

Goniocotes hologaster Nitzsch +

Lipeurus heterographus Nitzsch +

Trichodectidae:

Bovicola bovis (L.) +

Bovicola pilosus (Gieb.) +

Trichodectes canis (Deg.) +

Trichodectes subrostratus Nitzsch +

Trichodectes sp. +

Unidentified species of chewing lice +

THYSANOPTERA

Thripidae:

Anaphothrips signipennis (Bagn.) +

Bregmatothrips iridis Watson +

Diarthrothrips coffeae Will. +

Frankliniella cephalica (Crawford) -

Frankliniella fusca (Hinds) +

Frankliniella minuta (Moult.) -

Family and species

Thripidae--Continued:

Frankliniella moultoni Hood -  
Frankliniella occidentalis (Perg.) -  
Frankliniella tritici (Fitch) -  
Heliothrips haemorrhoidalis (Bouché) +  
Heliothrips sp. +  
Hercinothrips femoralis (Reut.) +  
Hercothrips fasciatus (Perg.) +  
Isonotothrips parvispinus Karny +  
Scirtothrips aurentii Faure +  
Scirtothrips citri (Moult.) +  
Scirtothrips longipennis (Bagn.) +  
Sericothrips variabilis (Beach) -  
Taeniothrips inconsequens (Uzel) +  
Taeniothrips simplex (Morison) +  
Taeniothrips xanthocerus (Hood) +  
Thrips fuscipennis Haliday -  
Thrips imaginis Bagn. +  
Thrips lini Lsd. +  
Thrips nigropilosus Uzel +  
Thrips tabaci Lind. +  
Unidentified species of thrips +

HOMOPTERA

Aleyrodidae:

Dialeurodes chittendeni Laing -  
Dialeurodes citri (Ashm.) +  
Trialeurodes vaporariorum (Westw.) +  
Unidentified species of whiteflies +

Aphididae:

Anuraphis cerdii (L.) +  
Anuraphis maidi-radici (Forbes) ?  
Anuraphis persicae-niger (Smith) +  
Anuraphis roseus Baker +  
Anuraphis tulipae (Fonsc.) +  
Aphis gossypii Glov. +  
Aphis helianthi Mon. +  
Aphis illinoisensis Shiner +  
Aphis medicaginis Koch +  
Aphis nerii Fons. -  
Aphis odinae (Van der Goot) +  
Aphis peperis F. +  
Aphis pomi Deg. +  
Aphis rumicis L. +  
Aphis sambuci L. +

Family and species

~~Aphiidae~~---Continued:

Aphis spiraeicola Patch +  
Aphis tavaresi Del G. +  
Brevicoryne brassicae (L.) +  
Capitophorus fragariae (Theo.) -  
Capitophorus ribis (L.) +  
Capitophorus rosarum (Kalt.) +  
Cavariella sp. -  
Cinara sabinae (Gillette & Palmer) +  
Eriosoma lanigerum (Hausm.) +  
Hyalopterus arundinis (F.) +  
Hysteroneura setariae (Thos.) -  
Macrosiphoniella sanborni (Gill.) +  
Macrosiphum liriiodendri (Mon.) +  
Macrosiphum pisi (Kalt.) +  
Macrosiphum rosae (L.) +  
Macrosiphum rudbeckiae (Fitch) +  
Macrosiphum solanifolii (Ashm.) +  
Macrosiphum solidaginis (F.) +  
Macrosiphum sp. +  
Myzus cerasi (F.) +  
Myzus persicae (Sulz.) +  
Pentalonia nigronervosa Coq. +  
Periphyllus lyropictus (Kess.) -  
Phorodon humuli (Schr.) +  
Pterochlorus tropicalis Van der Goot +  
Rhopalosiphum prunifoliae (Fitch) +  
Rhopalosiphum pseudobrassicae (Davis) +  
Rhopalosiphum subterraneum Mason ?  
Rhopalosiphum sp. ?  
Toxoptera aurantii (Fonsc.) +  
Trifidaphis phaseoli (Pass.) -  
Unidentified aphids +

Cercopidae:

Aphrophora permutata Uhl. +  
Clastoptera sp. +  
Philaenus leucophthalmus (L.) +  
Philaenus leucophthalmus falleni (Van D.) +  
Philaenus leucophthalmus gibbus (Fall.) +  
Philaenus leucophthalmus ustulatus (Fall.) +  
Unidentified spittle bugs +

Chermidae:

Chermes abietis L. -  
Chermes cooleyi Gill. -  
Chermes sp. -



Family and species

Cicadellidae:

Empoasca fabae (Harr.) +  
Empoasca maligna (Walsh) +  
Erythroneura pallidifrons (Edw.) -  
Erythroneura sp. -  
Eupteryx flavoscuta nigra Osb. +  
Eutettix tenellus (Bak.) -  
Idiocerus sp. +  
Macrosteles divisus (Uhl.) +  
Typhlocyba froggatti Bak. +  
Typhlocyba pomaria McAtee +  
Typhlocyba rosae (L.) +  
Unidentified leafhoppers +

Cicadidae:

Magicicada septendecim (L.) -

Coccidae:

Aonidiella aurantii (Mask.) -  
Aonidiella citrina (Coq.) -  
Aspidiotus perniciosus Comst. 3/  
Aulacaspis rosae (Bouché) + in oil  
Ceroplastes rubens Mask. +  
Chionaspis euonymi Comst. + in oil  
Chionaspis furfura (Fitch) -  
Chionaspis pinifoliae (Fitch) +  
  
Chrysomphalus aonidum (L.) + in oil  
Coccus pseudomagnoliarum (Kuw.) + in oil  
Coccus viridis (Green) +  
Dactylopius sp. -  
Diaspis carueli Targ. +  
Lecanium sp. -  
Lepidosaphes beckii (Newm.) + in oil  
Lepidosaphes ulmi (L.) -  
Orthezia insignis Dougl. +  
Phenacoccus aceris (Sign.) -  
Phenacoccus gossypii Towns. & Ckll.) -  
Pseudococcus brevipes (Ckll.) +  
Pseudococcus citri (Risso) + in oil  
Pseudococcus comstocki Kuw. -  
Pseudococcus sp. -  
Pulvinaria vitis (L.) +  
Saissetia hemisphaerica (Targ.) + in oil  
Saissetia oleae (Bern.) + in oil  
Unidentified scale insects +

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3/ Increases toxicity of oil.

Family and species

Araeopidae:

Sogata furcifera (Horv.) +

Membracidae:

Ceresa bubalus (F.) -

Glossonotus crataegi (Fitch) -

Stictocephala festina (Say) +

Unidentified treehoppers +

Psyllidae:

Paratrioza cockerelli (Sulc) -

Psylla pyricola (Foerst.) +

Psylla sp. +

HEMIPTERA

Cimicidae:

Cimex lectularius L. +

Coreidae:

Acanthocoris scabrator (F.) +

Anasa tristis (Deg.) + in oil

Corizus hyalinus (F.) +

Corizus sp. +

Dasynus piperis China +

Leptocorixa acuta (Thunb.) ?

Leptocorixa sp. +

Phthia picta (Drury) +

Physomerus grossipes (F.) ?

Lygaeidae:

Blissus hirtus Montd. +

Blissus leucopterus (Say) +

Nysius ericae (Schilling) -

Oncopeltus fasciatus (Dall.) +

Oxycarenus sp. +

Miridae:

Calocoris fulvomaculatus (Deg.) +

Calocoris norvegicus Gmel. +

Dicyphus minimus Uhl. +

Halticus citri (Ashm.) -

Helopeltis sp. +

Heterocordylus malinus Reut. +

Lygidea mendax Reut. +

Lygus apicalis Fieb. +

Lygus campestris (L.) +

Family and species

Miridae--Continued:

Lygus hesperus Knight +  
Lygus pratensis (L.) -  
Lygus simonyi Reut. -  
Lygus sp. +  
Mertila malayensis Dist. +  
Plesiocoris rugicollis (Fall.) +  
Psallus seriatus (Reut.) -  
Ragnus importunitas Dist. +

Pentatomidae:

Acrosternum hilare (Say) +  
Agonoscelis rutila (F.) +  
Antestia orbitalis (Westw.) -  
Antestia sp. +  
Bagrada hilaris (Burm.) +  
Chlorochroa sayi Stål +  
Coptosoma siamicum Walk. +  
Eurydema ornatum (L.) repels  
Eurydema pulchrum Westw. +  
Euschistus impictiventris Stål +  
Murgantia histrionica (Hahn) +  
Podops lurida (Burm.) +  
Rhoecocoris sulciventris (Stål) +  
Scotinophara coarctata (F.) ?  
Thyanta custator (F.) +

Pyrrhocoridae:

Dysdercus cingulatus (F.) +  
Dysdercus fasciatus Sign. +  
Dysdercus megalopygus Bred. +  
Dysdercus mimulus Hussey +  
Dysdercus nigrofasciatus Stål +  
Dysdercus ruficollis (L.) +  
Dysdercus superstitiosus (F.) +  
Dysdercus suturellus (H.S.) +  
Dysdercus sp. +

Reduviidae:

Centrocnemis sp. +

Tingitidae:

Corythucha arcuata (Say) +  
Corythucha cydoniae (Fitch) ?  
Corythucha marmorata Uhl. +  
Diplogomphus hewitti (Dist.) +  
Stephanitis pyri (F.) +  
Stephanitis rhododendri Horv. +

Unidentified true bugs -



Family and species

ANOPLURA

Haematomyzidae:

Haematomyzus elephantis Piaget +

Haematopinidae:

Haematopinus adventicius Neum. +

Haematopinus asini (L.) +

Haematopinus eurysternus (Mitz.) +

Linognathus piliferus (Burm.) +

Linognathus vituli (L.) +

Polyplax spinulosus (Burm.) +

Solenopotes capillatus End. +

Unidentified species +

Pediculidae:

Pediculus humanus capitis Deg. +

Phthirus pubis (L.) +

Unidentified true lice +

COLEOPTERA

Anobiidae:

Lasioderma serricorne (F.) ?

Stegobium paniceum (L.) +

Anthribidae:

Araecerus fasciculatus (Deg.) -

Bostrichidae:

Dinoderus bifoveolatus Well. -

Dinoderus minutus (F.) -

Rhizopertha dominica (F.) +

Rhizopertha sp. -

Sinoxylon anale Lesne -

Sinoxylon conigerum Gerst. -

Sinoxylon malaccanum Lesne -

Sinoxylon rugicauda Lesne -

Sinoxylon sp. -

Xylopsocus capucinus (F.) -

Xylothrips flavipes (Ill.) -

Bruchidae:

Bruchus pisorum (L.) +

Bruchus rufimanus Boh. +

Callosobruchus chinensis (L.) +

Family and species

Suprestidae:

Cryptodactylus gracilis Schoenf. +  
Chrysobothris femorata (Oliv.) +

Byturidae:

Byturus tomentosus (Deg.) +  
Byturus unicolor Say +  
Byturus sp. +

Cantharidae:

Cantharis sp. +

Carabidae:

Zabrus tenebrioides (Goeze) -

Cerambycidae:

Gracilia minuta (F.) +  
Perissus laetus Lameere -  
Pterolophia melanura Pasc. -

Chrysomelidae:

Agelastica alni (L.) +  
Altica ampelophaga Guér. +  
Altica ignita Ill. +  
Altica oleracea (L.) +  
Altica pagana Blackburn +  
Altica sp. +  
Aphthona sp. +  
Aspidomorpha miliaris (F.) +  
Brontispa longissima Gestro +  
Cassida sp. -  
Ceratia flavomarginata Daviv. +  
Cerotoma trifurcata (Forst.) +  
Chaetocnema aridula (Gyllh.) +  
Chaetocnema sp. +  
Chalepus dorsalis Thunb. +  
Chrysochus cobaltinus Lec. +  
Chrysomela populi L. +  
Chrysomela sp. -  
Clitea metallica Chen +  
Crioceris asparagi (L.) +  
Crioceris duodecimpunctata (L.) +  
Crioceris lilii (Scop.) +  
Cryptoccephalus incertus Oliv. ?  
Diabrotica balteata Lec. +  
Diabrotica duodecimpunctata (F.) +  
Diabrotica soror Lec. +

Family and species

Chrysomelidae--Continued:

Diabrotica trivittata (Mann.) +  
Diabrotica vittata (F.) +  
Diabrotica sp. +  
Epitrix cucumeris (Harr.) +  
Epitrix parvula (F.) +  
Galerucella rubi Tamanuki +  
Galerucella viburni (Payk.) +  
Galerucella xanthomelaena (Schr.) +  
Lema oryzae Kuw. ?  
Lema trilineata (Oliv.) +  
Leptinotarsa decemlineata (Say) +  
Longitarsus suturellus (Marsh.) +  
Longitarsus sp. +  
Luperodes praeustus Motsch. +  
Nodonota puncticollis (Say) repels  
Paria canella (F.) +  
Phaedon brassicae Baly +  
Phaedon cochleariae (F.) +  
Phaedon incertus Baly +  
Phaedon sp. +  
Phyllodecta vitellinae (L.) +  
Phyllodecta vulgatissima (L.) +  
Phyllodecta sp. +  
Phyllotreta albionica Lec. +  
Phyllotreta atra (F.) +  
Phyllotreta bipustulata (F.) +  
Phyllotreta consobrina (Curt.) +  
Phyllotreta cruciferae (Goeze) +  
Phyllotreta nemorum (L.) +  
Phyllotreta nigripes (F.) +  
Phyllotreta punctulata (Marsh.) +  
Phyllotreta sinuata (Redt.) +  
Phyllotreta undulata Kutsch. +  
Phyllotreta vittata (F.) +  
Phyllotreta vittata discedens Weise +  
Phyllotreta sp. +  
Plagioderia inclusa Stal -  
Plesispa reichei Chap. +  
Podagrica javana (Motsch.) +  
Podontia affinis Grönd. +  
Psylliodes chrysocephala (L.) +  
Psylliodes punctulatus Melsh. +  
Psylliodes sp. +  
Rhaphidopalpa femoralis Motsch. +  
Rhaphidopalpa foveicollis (Lucas) +  
Systema frontalis (F.) +  
Typophorus viridicyaneus (Crotch) +  
Wallacea palmarum Gestro +  
 Unidentified Chrysomelidae +

Family and species

Cicindelidae:

Cicindela campestris L. ?

Cleridae:

Necrobia rufipes (Deg.) -

Coccinellidae:

Epilachna borealis (F.) repels

Epilachna dodecastigma Muls. +

Epilachna indica Muls. +

Epilachna varivestis Muls. +

Epilachna vigintioctomaculata niponica Lew. +

Epilachna vigintioctopunctata (F.) +

Epilachna sp. +

Hippodamia convergens Guér. +

Unidentified Coccinellidae +

Colydiidae:

Bothrideres andrewesi Grouv. -

Cryptophagidae:

Atomaria linearis Steph. -

Cucujidae:

Ahasverus advena (Waltl) +

Laemophloeus turcicus Grouv. +

Oryzaephilus mercator (Fauv.) +

Oryzaephilus surinamensis (L.) +

Curculionidae:

Amorphaidea lata Motsch. +

Anthonomus eugenii Cane +

Anthonomus grandis Boh. +

Anthonomus musculus Say -

Anthonomus pomorum (L.) +

Anthonomus pyri Koll. +

Anthonomus rubi (Hbst.) +

Anthonomus signatus Say +

Anthonomus sp. -

Anthonomus vestitus Boh. -

Brachyrhinus ovatus (L.) -

Brachyrhinus singularis (L.) ?

Brachyrhinus sulcatus (F.) -

Calendra sp. -

Caulophilus latinasus (Say) -

Ceutorhynchus assimilis (Payk.) ?

Ceutorhynchus macula-alba (Hbst.) +

Ceutorhynchus pleurostigma (Marsh.) -

Family and species

Ceutorhynchus sulcicollis (Payk.) +  
Chalcodermus aeneus Boh. -  
Conotrachelus nemophar (Hbst.) ?  
Cylas formicarius (F.) +  
Diorymerellus laevimargo Champ. ?  
Echinocnemus bipunctatus Roelofs +  
Hylobius abietis (L.) -  
Hypera postica (Gyll.) +  
Hypera punctata (F.) +  
Listroderes obliquus Klug +  
Pantomorus leucoloma (Boh.) -  
Philopodon plagiatus (Schall.) -  
Phyllobius oblongus (L.) ?  
Phyllobius pyri (L.) +  
Pissodes strobi (Peck) +  
Rhinoncus pericarpus (L.) +  
Rhynchaenus salicis (L.) -  
Rhynchites aeneovirens minutus Hbst. -  
Rhynchites acquatus (L.) +  
Rhynchites coeruleus (Deg.) +  
Rhynchites heros Roelofs +  
Rhynchites pauxillus Germ. +  
Rhynchites sp. +  
Sitona lineata (L.) -  
Sitophilus granarius (L.) -  
Sitophilus oryza (L.) -  
Sternechus paludatus (Casey) -  
Sternochetus lapathi (L.) -  
Tyloderma fragariae Riley +  
Unidentified weevils

Dermestidae:

Anthrenus scrophulariae (L.) +  
Anthrenus verbasci (L.) +  
Anthrenus vorax Waterh. +  
Attagenus piccus (Oliv.) +  
Dermestes lardarius L. -  
Dermestes vulpinus F. -  
Dermestes sp. -  
Trogoderma versicolor (Croultz.) +

Elateridae:

Limonium canus Lec. -  
Limonium octypus (Say) - as a repellent  
Unidentified click beetles -

Lyctidae:

Minthoa rugicollis (Walk.) -



Family and species ..

Meloidae:

Epicauta gerhami Mars. -  
Epicauta marginata (F.) -  
Epicauta pennsylvanica (Deg.) -  
Lytta stygica (Lec.) repels  
Unidentified blister beetles repels

Nitidulidae:

Carpophilus dimidiatus (F.) -  
Meligethes aeneus (F.) +

Ptinidae:

Gibbium psylloides (Czemp.) +  
Niptus hololeucus (Fald.) -  
Ptinus fur (L.) -  
Ptinus tectus Boield. -

Scarabaeidae:

Anomala orientalis Waterh. repels  
Apogonia cribricollis Burm. -  
Autoserica castanea (Arrow) repels  
Autoserica sp. -  
Cetonia aurata (L.) ?  
Heteroligis claudius Klug -  
Macroductylus subspinosus (F.) repels  
Maladera holosericea (Scop.) -  
Melolontha sp. -  
Oryctes nasicornis (L.) -  
Phyllopertha horticola (L.) -  
Phyllophaga hirticula (Knoch) ?  
Phyllophaga sp. repels.  
Popillia japonica Newm. repels  
Unidentified Scarabaeidae +

Scolytidae:

Hypothenemus eruditus Westw. -  
Scolytus scolytus (F.) +  
Stephanoderes hampei Ferr. -  
Unidentified Scolytidae -  
Xyleborus discolor Blandf. -  
Xyleborus fornicatus Eichh. -

Staphylinidae:

Oxytelus sculptus Grav. +

Family and species

Tenebrionidae:

- Alphitobius laevigatus (F.) -  
"Camaria geometer" +  
Gnathocerus cornutus (F.) +  
Tenebrio molitor L. -  
Tenebrio obscurus F. -  
Tribolium castaneum (Hbst.) -  
Tribolium confusum Duv. -  
Unidentified Tenebrionidae -

LEPIDOPTERA

Aegeriidae:

- Melittia satyriniformis (Hbn.) +

Amathusiidae:

- Amathusia phidippus (L.) ?

Amatidae:

- Enchromia polymena orientalis Butl. +

Arctiidae:

- Arctia caia (L.) -  
Diacrisia lubricipeda (L.) -  
Diacrisia subcarnea (Walk.) +  
Estigmene acraea (Drury) +  
Hyphantria cunea (Drury) +  
Isia sp. +  
Tyria jacobaeae (L.) ?  
Utetheisa lotrix (Cramer) -  
Utetheisa pulchella (L.) -

Blastobasidae:

- Holcocera iceryaeella (Riley) -

Bombycidae:

- Bombyx mori (L.) +

Citheroniidae:

- Anisota senatoria (A. & S.) +

Coleophoridae:

- Coleophora laricella (Hbn.) +  
Coleophora malivorella Riley ?  
Coleophora pruniella Clem. +

Cosmopterygidae:

- Batrachedra amydraula Meyr. -  
Kalkivoria flavofasciata Nagano +

Family and species

Cossidae:

Cossus cossus (L.) +

Crambidae:

Chilo simplex (Butl.) ?

Chilo suppressalis (Walk.) +

Crambus bonifatellus (Hulst) +

Crambus sperryellus Klots. +

Crambus teterellus (Zinck.) +

Crambus sp. +

Unidentified species ?

Galleriidae:

Acroia grisella (F.) -

Arenipses sabella Hampson -

Tirathaba sp. +

Gelechiidae:

Cremona cotoneasteri Busck +

Dichomeris marginellus (F.) +

Keiferia lycopersicella (Busck) +

Pectinophora gossypiella (Saund) +

Recurvaria piceaella Kearf. ?

Sitotroga cerealella (Oliv.) +

Geometridae:

Abraxas grossulariata (L.) +

Alsophila pometaria (Harr.) +

Bupalus piniarius (L.) -

Cheimatobia brumata (L.) +

Cingilia catenaria (Drury) -

Paleacrita vernata (Peck) +

Selenia tetralunaria (Hufn.) +

Tephroclystia absinthiata (Clem.) +

Unidentified Geometridae +

Gracilariidae:

Gracilaria azaleella Brants +

Phyllonorycter, n. sp. -

Hesperiidae:

Erionota thrax (L.) ?

Urbanus proteus (L.) repels

Hyponomeutidae:

Argyresthia conjugella Zell. +

Argyresthia ehippiella (F.) +

Hyponomeuta cognatellus (Hbn.) +

Hyponomeuta malinellus Zell. +

Hyponomeuta padellus (L.) +

Hyponomeuta sp. +

Plutella maculipennis (Curt.) +

Family and species

Incurvariidae:

Lampronia rubiella (Bjerk.) ?

Lasiocampidae:

Dendrolimus pini (L.) -  
Malacosoma americana (F.) +  
Malacosoma disstria Hbn. -  
Malacosoma neustria (L.) +  
Malacosoma pluvialis (Dyar) +  
Unidentified Lasiocampidae +

Limacodidae:

Parasa consocia Walk. ?  
Parasa herbifera (Walk.) +  
Setora nitens Walk. +  
Unidentified Limacodidae +

Lymantriidae:

Arctornis alba (Bremer) +  
Dasychira mendosa (Hbn.) +  
Euproctis conspersa (Felder) +  
Euproctis fraterna (Moore) +  
Euproctis pseudoconspersa (Strand) +  
Hemerocampa leucostigma (A. & S.) +  
Laelia suffusa (Walk.) ?  
Lymantria monacha (L.) ?  
Notolophus antiquus (L.) +  
Notolophus posticus (Walk.) +  
Nygmia phaeorrhoea (Donov.) +  
Porthesia scintillans (Walk.) +  
Porthesia sericea (Wileman) +  
Porthesia taiwana Shir. +  
Porthetria dispar (L.) +  
Pseudodura dasychiroides Strand +  
Stilpnotia cygna (Moore) +  
Stilpnotia salicis (L.) -  
Unidentified Lymantriidae -

Lyonetiidae:

Lyonetia clerkella (L.) -

Notodontidae:

Datana ministra (Drury) +  
Drymonia menleyi Leech +  
Phalera bucephala (L.) +  
Phalera flavescens (Brem. & Grey) +

Family and species

Nymphalidae:

Aglais urticae (L.) -  
Euphydryas chalcedona (Dblly. & Hew.) +  
Nymphalis antiopa (L.) +  
Nymphalis io (L.) +  
Nymphalis polychloros (L.) -  
Vanessa cardui (L.) +  
Unidentified Nymphalidae ?

Oecophoridae:

Depressaria nervosa Haw. +  
Hofmannophila pseudospretella (Staint.) +

Olethreutidae:

Ancylis comptana fragariae (W. & R.) +  
Carpocapsa pomonella (L.) +  
Epinotia trimaculana (Don.) -  
Grapholitha funebrana Treit. -  
Grapholitha molesta (Busck) -  
Laspeyresia nigricana (Steph.) +  
Melissopus latiferreanus (Wlsm.) +  
Olethreutes pruniana (Hbn.) +  
Polychrosis botrana (Schiff.) +  
Polychrosis viteana (Clem.) -  
Rhopobota naevana (Hbn.) +  
Rhyaciona buoliana (Schiff.) +  
Spilonota ocellana (D. & S.) -  
Taniva albolineana (Kearf.) ?

Papilionidae:

Papilio thoas L. +

Phalaenidae:

Achaea janata (L.) +  
Agrotis segetum (Schiff.) -  
Agrotis sp. -  
Alabama argillacea (Hbn.) +  
Anomis erosa Hbn. +  
Anomis texana Riley +  
Anticarsia gemmatilis (Hbn.) -  
Autographa brassicae (Riley) +  
Autographa californica (Speyer) +  
Autographa chalytes (Esp.) ?  
Autographa falcifera (Kby.) ?  
Autographa signata (F.) +  
Barathra brassicae (L.) +



Family and species

Phalaenidae--Continued:

Brithys crini (F.) +  
Brithys pancratii (Cyr.) +  
Busseola fusca (Fuller) +  
Calogramma festiva (Don) +  
Ceramica picta (Harr.) -  
Cirphis unipuncta (Haw.) -  
Earias fabia (Stoll) +  
Heliothis armigera (Hbn.) -  
Heliothis assulta Guen. -  
Heliothis virescens (F.) -  
Laphygma exigua (Hbn.) -  
Monima gothica (L.) -  
Naranga aenescens (Moore) ?  
Nephelodes emmedonia (Cram.) -  
Panolis flammea (Schiff.) +  
Panolis flammea ab. griseovariegata Goeze ?  
Peridroma margaritosa (Haw.) -  
Plathypena scabra (F.) +  
Polia oleracea (L.) +  
Prodenia eridania (Cram.) -  
Prodenia litura (F.) -  
Prodenia sp. -  
Spodoptera mauritia (Boisd.) +  
Spodoptera pecten Guen. +  
Trigonophora meticulosa (L.) +  
Triphaena pronuba (L.) +  
Unidentified Phalaenidae -

Phaloniidae:

Phalonia ambiguella (Hbn.) -  
Phalonia sp. ?

Phycitidae:

Acrobasis caryae Grote -  
Citripestis sagitiferella (Moore) +  
Ephestia cautella (Walk.) -  
Ephestia elutella (Hbn.) -  
Etiella zinckenella (Treit.) -  
Fundella cistipennis (Dyar) -  
Hemalopalpia dalera Dyar +  
Mineola scitulella Hulst -  
Mineola vaccinii (Riley) +  
Plodia interpunctella (Hbn.) -  
Zophodia convolutella (Hbn.) +

Pieridae:

Colias eurytheme Bdv. -  
Pieris brassicae (L.) +  
Pieris protodice Bdv. & Loc. +  
Pieris rapae (L.) +  
Unidentified pieridae +

Family and species

Psychidae:

- Cryptothelea minuscula (Butl.) ?  
Thyridopteryx ephemeraeformis (Haw.) repels  
Unidentified Psychidae repels

Pterophoridae:

- Pterophorus periscelidactylus Fitch +

Pyraustidae:

- Crocidolomia binotalis Zell. +  
Desmia funeralis (Hbn.) +  
Diaphania hyalinata (L.) +  
Diaphania nitidalis (Stoll) +  
Evergestis rimosalis (Guen.) +  
Hellula undalis (F.) +  
Hymenia fascialis (Cram.) +  
Lineodes integra Zell. +  
Loxostege commixtalis (Walk.) +  
Loxostege sticticalis (L.) +  
Meruca testulalis (Geyer) -  
Nymphula depunctalis (Guen.) +  
Pachyzancla licarsisalis (Walk.) +  
Phlyctaenia rubigalis (Guen.) -  
Pionea forficalis (L.) ?  
Psara submarginalis (Swin.) +  
Pyrausta aurata meridionalis (Stand.) +  
Pyrausta nubilalis (Hbn.) +  
Pyrausta salentialis (Snell.) ?

Saturniidae:

- Cricula trifenestrata (Helfer) +

Schoenobiidae:

- Schoenobius bipunctiferus (Walk.) +  
Schoenobius incertulas (Walk.) +

Sphingidae:

- Cenophodes hylas (L.) +  
Celerio lineata (F.) +  
Ceratomia catalpae (Bdv.) +  
Herse convolvuli (L.) +  
Pholus achemon (Drury) +  
Protoparce quinquemaculata (Haw.) + (small larvae); repels (large larvae)  
Protoparce sexta (Johan.) +  
Protoparce sp. ?  
Smerinthus ocellata (L.) -

Family and species

Tineidae:

Tinea pellionella (L.) +  
Tinea sp. +  
Tineola biselliella (Hun.) +  
Unidentified Tineidae +

Tortricidae:

Adoxophyes privatana (Walk.) +  
Archips fosteriana (F.) +  
Archips podana (Scop.) +  
Archips promubana (Hbn.) +  
Archips rosana (L.) +  
Archips xylesteana (L.) +  
Argyrotaenia citrana (Fern.) -  
Argyrotaenia mariana (Fern.) -  
Argyrotaenia velutinana (Walk.) -  
Argyrotoxa semipurpurana (Kearf.) +  
Carposina sasakii Mats. -  
Platynota stultana (Wlsm.) -  
Sparganothis sulfureana (Clem.) -  
Peronea contaminana (Hbn.) +  
Tortrix sp. +  
Tortrix viridana (L.) ?

Zygaenidae:

Artona catoxantha (Hamps.) +  
Harrisina americana (Guér.) +  
Harrisina brillians B. & McD. +  
Illiberis pruni Dyar +  
Pryeria sinica Moore +

HYMENOPTERA

Apidae:

Apis mellifera L. +

Braconidae:

Unidentified species +

Cephiidae:

Janus integer (Nort.) -

Diprionidae:

Diprion pini (L.) +  
Diprion simile (Htg.) +  
Gilpinia polytona (Htg.) +

Family and species

Diprionidae--Continued:

Neodiprion lecontei (Fitch) +  
Neodiprion pinetum (Nort.) +  
Neodiprion sp. +

Formicidae:

Antroplepis longipes (Jerd.) +  
Camponotus herculeanus (L.) +  
Camponotus sp. +  
Dolichoderus bidens (L.) ?  
Dolichoderus bituberculatus (Mayr) +  
Formica rufa L. +  
Iridomyrmex humilis Mayr repels  
Myrmica rubra (L.) +  
Oecophylla smaragdina (F.) +  
Prenolepis sp. +  
Solenopsis geminata (F.) +  
Solenopsis sp. -  
Tetramorium caespitum (L.) -  
 Unidentified Formicidae +

Tenthredinidae:

Allantus albicinctus meridionalis Takeuchi +  
Athalia colibri (Christ.) +  
Blennocampa rubi (Harr.) +  
Caliroa aethiops (F.) +  
Caliroa cerasi (L.) +  
Fenusa pusilla (Lep.) +  
Euplocampa flava (L.) +  
Euplocampa minuta (Christ.) +  
Euplocampa pyricola Roh. ?  
Euplocampa sp. +  
Euplocampa testudinea (Flug) +  
Metallus rubi Forbes +  
Neurotoma nemoralis (L.) +  
Phymatocera aterrima (Flug) +  
Prionophorus rubivorus Roh. +  
Pristiphora abietinus (Christ.) +  
Pristiphora erichsonii (Htg.) +  
Pteronidea ribesii (Scop.) +  
Pteronidea salicis (L.) +  
Selandria atra Steph. +  
Tomostethus juncivorus Roh. +

DIPTERA

Agromyzidae:

Agromyza phaseoli Coq. +  
Liriomyza flaveola (Fall.) +  
Liriomyza solani (Macq.) -  
Phytomyza ilicis Curtis -

Family and species

Anthomyiidae:

Atherigona indica Mall. +  
Eylemya antionia (Meig.) +  
Eylemya brassicae (Bouché) ?  
Pegomya hyoscyami (Panz.) +  
Pegomya nigritarsus (Fall.) ?

Calliphoridae:

Calliphora erythrocephala (Meig.) +  
Calliphora sp. -  
Cochliomyia americana C. & F. +  
Lucilia cuprina (Wied.) +  
Lucilia sericata (Meig.) +  
Lucilia sp. repels  
Phormia regina (Meig.) + (to eggs)  
Phormia sp. -

Chloropidae:

Chloropisca circumdata (Meig.) +  
Oscinis oryzella Mats. +

Culicidae:

Aedes aegypti (L.) +  
Aedes cinereus Meig. ?  
Aedes excrucians (Walk.) +  
Aedes fitchii (F. & V.) +  
Aedes sp. +  
Aedes stimulans (Walk.) +  
Aedes trichurus (Dyar) +  
Aedes vexans (Meig.) +  
Anopheles annularis W. d. Walp. +  
Anopheles byrcanus sinensis (Wied.) -  
Anopheles maculipennis Meig. +  
Anopheles pseudopunctipennis Theob. -  
Anopheles sp. +  
Anopheles subpictus Grassi +  
Coenotarsa sp. -  
Culex hirtensis Fic. +  
Culex pinii L. +  
Culex quinquefasciatus Say +  
Culex sp. +  
Culex territans of various authors +  
Theobaldia annulata (Schrank) +  
Unidentified mosquitoes +

Drosophilidae:

Drosophila ampelophila (Loew) -  
Drosophila sp. -



Family and species

Hippoboscidae:

- Melophagus ovinus (L.) +  
Pseudolynchia canariensis (Macq.) +

Itonididae:

- Contarinia nasturtii Kieffer +  
Contarinia pyrivora (Riley) -  
Contarinia tritici (Kby.) -  
Diarthronomyia hypogea Loew. +  
Monarthropalpus buxi Laboulb. -  
Mycodiplosis alternata Felt +  
Perrisia mali (Kieffer) +  
Sitodiplosis mosellana (Gehin) -

Muscidae:

- Haematobia irritans (L.) +  
Musca domestica L. +  
Stomoxys calcitrans (L.) +

Fungivoridae:

- Lycoria praecox (Meig.) +  
Lycoria pusilla (Meig.) -  
Lycoria sp. +

Oestridae:

- Hypoderma bovis (Deg.) +  
Hypoderma crossi Patton ?  
Hypoderma lineatum (DeVill.) +  
Hypoderma sp. +

Otitidae:

- Euxesta stigmatias Loew -

Psilidae:

- Psila rosae (F.) +

Scatophagidae:

- Scatophaga stercoraria (L.) +

Syrphidae:

- Allograpta obliqua (Say) -  
Lampetia equestris (F.) +  
Lampetia geniculatus (Strobl.) -  
Syrphus americanus Wied. -  
Syrphus sp. +

Tabanidae:

- Unidentified species +

Family and species

Tendipedidae:

Procladius choreus (Meig.) +  
Procladius culiciformis (L.) +  
Tanytus punctipennis Meig. +  
Tanytarsus eminulus (Walk.) +  
Tendipes brachialis (Coq.) +  
Tendipes cingulatus (Meig.) +  
Tendipes decorus (Johan.) +  
Tendipes lobiferus (Say) +  
Tendipes nervosus (Staeg.) +  
Tendipes plumosus prasinus (Meig.) -  
Tendipes sp. +  
Tendipes tenuicaudatus (Mall.) +

Tipulidae:

Tipula sp. +

Trypetidae:

Ceratitis capitata (Wied.) +  
Ceratitis rosa (Karsch) +  
Dacus cucurbitae (Coq.) +  
Dacus sp. +  
Epochra canadensis Loew +  
Platyparea sp. ?  
Rhagoletis cerasi (L.) +  
Rhagoletis cingulata (Loew) +  
Rhagoletis fausta (O.S.) +  
Rhagoletis pomonella (Walsh) +

SIPHONAPTERA

Dolichopsyllidae:

Nosopsyllus fasciatus (Bosc) +

Hectopsyllidae:

Echidnophaga gallinacea (Westw.) +

Hystrihopsyllidae:

Leptopsylla segnis (Schönh.) +

Pulicidae:

Cediopsylla simplex (Baker) +  
Ctenocephalides canis (Curt.) +  
Ctenocephalides felis (Bouché) +  
Hoplopsyllus affinis (Baker) +  
Pulex irritans L. +  
Xenopsylla brasiliensis (Baker) +  
Xenopsylla cheopis (Rothsch.) +  
Unidentified fleas +

Family and species

ACARINA

Argasidae:

- Argas miniatus Koch -
- Ornithodoros moubata (Murr.) -
- Ornithodoros tartakovskyi Olenov -

Dermanyssidae:

- Ophionyssus serpentium Hirst +

Eriophyidae:

- Epitrimerus vitis Nal. +
- Eriophyes sheldoni Ewing +
- Phyllocoptes viticulus Pant. +
- Phyllocoptes vitis Nal. +
- Phyllocoptiruta oleivorus (Ashm.) +

Gamasidae:

- Dermanyssus gallinae (Deg.) +

Ixodidae:

- Boophilus annulatus (Say) +
- Dermacentor andersoni Stiles +
- Dermacentor nigrolineatus (Pack.) +
- Dermacentor variabilis (Say) +
- Ixodes holocyclus Newm. +
- Ixodes ricinus (L.) +
- Rhipicephalus sanguineus (Latr.) +

Parasitidae:

- Lasioseius pomi Parrott ?

Pediculoididae:

- Pignaceophorus sp. -

Penthaleidae:

- Hylotydeus destructor (Tucker) +

Sarcoptidae:

- Chorioptes bovis (Gerl.) +
- Demodex folliculorum bovis Stiles -
- Demodex folliculorum canis Leydig +
- Psoroptes sp. +
- Sarcoptes scabiei (Deg.) +
- Unidentified Sarcoptidae +

Family and species

Tarsonemidae:

Hemitarsonemus latus (Banks) +  
Tarsonemus pallidus Banks +  
Tarsonemus sp. -

Tetranychidae:

Bryobia praetiosa Koch +  
Neotetranychus buxi Garman +  
Oligonychus simplex (Banks) -  
Paratetranychus bicolor (Banks) +  
Paratetranychus citri McG. + in oil  
Paratetranychus ilicis McG. +  
Paratetranychus pilosus (Can. & Fanz.) +  
Paratetranychus sp. +  
Paratetranychus yothersii McG. +  
Tetranychus bimaculatus Harv. +  
Tetranychus (Epitetranychus) althaeae V. Hanst. ?  
Tetranychus mcdanieli McG. +  
Tetranychus pacificus McG. + in oil  
Tetranychus telarius (L.) +  
Unidentified Tetranychidae +

Tyroglyphidae:

Caloglyphus kramerii Berl. ?  
Tyroglyphus longior Gerv. -

Unidentified species of Acarina +

PHALANGIDA

Phalangidae:

Phalangium opilio L. -

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